IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Ton, et al.   Docket No.: COWA0002

Serial No. : Unassigned   Art Unit: Unassigned

Filed: Filed Herewith   Examiner: Unassigned

Title: Bandwith Allocation Method and Apparatus for Fixed Wireless Networks

Assistant Commissioner for Patents

P.O. Box 1450

Alexandria, VA 202313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

(X)   under 37 CFR 1.97(b), or

(within three months of filing national application; or date of entry of international application; or before mailing date of first office action on the merits; whichever occurs last)

( )   under 37 CFR 1.97(c) together with either a:

    ( )   Certification under 37 CFR 1.97(e), or

    ( )   a $220.00 fee under 37 CFR 1.17(p), or

(After the CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)

( )   under 37 CFR 1.97(d) together with a:

    ( )   Certification under 37 CFR 1.97(e), and

    ( )   a $220.00 fee under 37 CFR 1.17(d)(2)(ii), and

    ( )   a $130.00 petition fee set forth in 37 CFR 1.17(i)(1)

(Filed after final action or notice of allowance, whichever occurs first, but before payment of the issue fee)

1

(X)   The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 07-1445 (Order No. COWA0002). A copy of this sheet is enclosed for accounting purposes.

(X)   Applicant(s) submit herewith Form PTO 1449 -- Information Disclosure Citation together with copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.25.

( )   A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individual(s) designated in 37 CFR 156(c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

Respectfully Submitted,

Kirk D. Wong
Attorney For Applicant
Reg. No. 43,284

Customer No. 22862

2

Attorney Docket No.   COWA0002

F rm 1449 (Modified)	Atty. Dock t N . COWA0002	S rial N .: Unassigned
Informati n Disclosur Stat ment By Applicant	Applicant: Ton, et al.	
(Use Several Sheets if Necessary)	Filing Dat : Herewith	Gr up: Unassigned

U.S. Patent Documents

Examiner Initial	No.	Patent No.	Issue Date	Patentee	Class	Sub-class	Filing Date
	A	6,480,522	11/12/02	Hoole et al.	375	130	11/28/00
	B	6,469,991	10/22/02	Chuah	370	329	5/22/98
	C	6.381,250	4/30/02	Jacobson et al.	370	468	1/22/99
	D	6,377,548	4/23/02	Chuah	370	233	5/22/98
	E	6,359,923	3/19/02	Agee et al.	375	130	12/18/97
	F	6,351,468	2/26/02	LaRowe, Jr., et al	370	449	7/2/98
	G	6,327,254	12/4/01	Chuah	370	328	5/22/98
	H	6,115,390	9/5/00	Chuah	370	443	5/22/98
	I	6,226,277	5/1/01	Chuah	370	328	5/22/98
	J	6,272,140	8/7/01	LaRowe, Jr., et al	370	403	7/2/98
	K	6,314,091	11/6/01	LaRowe, Jr., et al	370	338	7/2/98
	L	5,684,791	11/4/97	Raychaudhuri, et al	370	278	11/7/95
	M	5,638,371	6/10/97	Raychaudhuri, et al	370	347	6/27/95
	N	5,592,470	1/7/97	Raychaudhuri, et al	370	320	12/21/94
	O	6,038,216	3/14/00	Packer	370	231	11/1/96
	P	6,298,041	10/2/01	Packer	370	231	4/27/99
	Q	6,295,285	9/25/01	Whitehead	370	329	4/17/97
	R	6,198,728	3/6/01	Hulyalkar et al.	370	252	12/19/96
	S	6,147,975	11/14/00	Bowman-Amuah	370	252	6/2/99
	T	5,970,062	10/19/99	Bauchot	370	345	2/18/97
	U	5,875,186	2/23/99	Belanger et al.	370	331	1/23/97

Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
	V	917 317	5/19/99	EPO	H04L	12/28	X	
	W	917 316	5/19/99	EPO	H04L	12/28	X	
	X	912 016	4/28/99	EPO	H04L	12/28	X	
	Y	913 968	5/6/99	EPO	H04L	12/28	X	
	Z	915 592	5/12/99	EPO	H04L	12/28	X	
	AA	912 015	4/28/99	EPO	H04L	12/26	X	
	BB	719 062	6/26/96	EPO	H04Q	7/36	X	
	CC	755 164	1/22/97	EPO	H04Q	11/04	X	
	DD	804 006	10/29/97	EPO	H04L	12/28	X	

Oth r D cuments

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
	EE	Hossain, E. et al.; *A Centralized TDMA-Based Scheme for Fair Bandwidth Allocation in Wireless IP Networks*; IEEE Journal on Selected Areas in Communications vol.19, no.11 p. 2201-14; Nov. 2001.
	FF	Hossain, E. et al.; *Link-State Aware Dynamic Traffic Scheduling for Providing Predictive QoS in Wireless Mobile Multimedia Networks;* Journal of Interconnection Networks vol.1, no.3 p. 221-45; World Scientific, Sept. 2000.
	GG	Shimizu, Y. et al.; *Proposal of Flow and Resource Control Schemes for ABR Service in Wireless ATM*; 10th International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'99). Proceedings Part vol.3 p. 1237-41 vol.3; Osaka Univ, Odsaka, Japan;1999.
	HH	Wang, L. et al.; *A Hybrid Adaptive Wireless Channel Access Protocol for Multimedia Personal Communication Systems*; Wireless Personal Communications vol.13, no.1-2 p. 79-96; Kluwer Academic Publishers; May 2000.
	II.	Zhang, Z. et al.; *A Bandwidth Reservation Multiple Access Protocol for Wireless ATM Local Networks*; International Journal of Wireless Information Networks vol.4, no.3 p. 147-61; Plenum; July 1997.
	JJ	Xu, G. et al.; *Throughput Multiplication of Wireless LANs for Multimedia Services: SDMA Protocol Design*; 1994 IEEE GLOBECOM. Communications: The Global Bridge. Conference Record (Cat. No.94CH34025) Part vol.3 p. 1326-32 vol.3; IEEE, New York, NY, USA; 1994.
✓	KK	Andrews, M. et al.; *Dynamic Bandwidth Allocation Algorithms for High-Speed Data Wireless Networks;* Lucent Technologies; (note: the pages appear in reverse order with page 25 being page 1 of the document and page 1 of the document being page 25).
	LL	Chiang, C. et al.; *Shared Tree Wireless Network Multicast;* University of California, Los Angeles; April 1997.
	MM	Goyal, P. et al.; *Start-time Fair Queuing: A Scheduling Algorithm for Integrated Services Packet Switching Networks;* University Of Texas, Austin.
	NN	Tassiulas, L. et al.; *Maxmin Fair Scheduling in Wireless Networks; August 2001.*
	OO	Jayaram, R. et al.; *A Call Admission and Control Scheme for Quality-of-Service (QoS) Provisioning in Next Generation Wireless Networks;* Baltzer Journals.
	PP	Lin, Chunhung; *On-Demand QoS Routing in Multihop Mobile Networks;* National Sun Yat-Sen University, Taiwan.
	QQ	Ng, T. et al.; *Packet Fair Queuing Algorithms for Wireless Networks with Location-Dependent Errors;*Carnegie Mellon University, February 2000;
	RR	Royer, E. et al.; *A Review of Current Routing Protocols for Ad Hoc Mobile Wireless Networks;* IEEE Personal Communications; 1999;
	SS	Su, William; *Bandwidth Allocation Strategies for Wireless ATM Networks Using Predictive Reservation;* University of California, Los Angeles;
	TT	Jiang, Z. et al.; *Fair and Efficient Resource Management Scheme to Support Transient Data Recovery for Migrating Users in Wireless Multicast Networks*; 2002 IEEE Wireless Communications and Networking Conference Record. WCNC 2002 (Cat. No.02TH8609) Part vol.2 p. 687-91 vol.2; IEEE, Piscataway, NJ, USA; 2002.
	UU	Campbell, A. et al.; *Design, Implementation, and Evaluation of Cellular IP;* IEEE Personal Communications; August 2000.
	VV	Li, C. et al.; *Collision Based Multiple Access Scheme for Wireless Networks;* IEEE; 2002.
	WW	Miklos, G. et al.; Fair Bandwidth Allocation of a Wireless Base Station; March 31, 1999.
	XX	Macker, Joseph P.; *Controlled Link Sharing and Quality of Service Data Trans for Military Internetworking;* IEEE; 1996.

	YY	Stamoulis, A. et al.; *Packet Fair Queuing Scheduling Based on Multirate Multipath-Transparent CDMA for Wireless Networks*; University of Minnesota.
	ZZ	*Proceedings IEEE INFOCOM 2002 Conference on Computer Communications. Twenty-First Annual Joint Conference of the IEEE Computer and Communications Societies (Cat. No.37364)*; IEEE, Piscataway, NJ, USA; 2002.
	1	Liu, J. et al.; *Intra- and Inter-Session Channel Provisioning for Video Distribution in WirelessNnetworks with Heterogeneous Users*; SPIE-Int. Soc. Opt. Eng, 2002;
	2	Parthasarathy, R et al.; *A Framework for Policy-Based Quality of Service (QoS) in an LMDS Wireless Network*; ACTA Press, Anaheim, CA, USA; 2002.
	3	Jin, R. et al.; *VBR Dynamic Access Control for Wireless ATM*; IEICE Transactions on Communications vol.E85-B, no.7 p. 1247-56; July 2002.
	4	Liao, W. et al.; *A TDMA-Based Bandwidth Reservation Protocol for QoS Routing in a Wireless Mobile ad hoc Network*; 2002 IEEE International Conference on Communications. Conference Proceedings. ICC 2002 (Cat. No.02CH37333) Part vol.5 p. 3186-90 vol.5; IEEE, Piscataway, NJ, USA; 2002.
	5	Heikkinen, T.; *Distributed Scheduling Via Pricing in a Communication Network*; NETWORKING 2002. Networking Technologies, Services, and Protocols; Performance of Computer and Communication Networks; Mobile and Wireless Communications. Second International IFIP-TC6 Networking Conference. Proceedings (Lecture Notes in Computer Science Vol.2345) p. 850-62; Springer-Verlag , Berlin, Germany; 2002.
	6	Ganguly, S. et al.; *An Implicit QoS Provisioning Strategy in Multimedia Cellular Network*; 2002 IEEE Wireless Communications and Networking Conference Record. WCNC 2002 (Cat. No.02TH8609) Part vol.1 p. 301-6 vol.1; IEEE, Piscataway, NJ, USA; 2002.
	7	Chiang, M. et al.; *Resource Allocation for QoS Provisioning in Wireless ad hoc Networks*; GLOBECOM'01. IEEE Global Telecommunications Conference (Cat. No.01CH37270) Part vol.5 p. 2911-15 vol.5; IEEE, Piscataway, NJ, USA; 2001.
	8	Ogawa, M. et al.; *Dynamic Queuing and Bandwidth Allocation for Controlling DelayTtime for QoS in CDMA Packet System*; 12th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications. PIMRC 2001. Proceedings (Cat. No.01TH8598) Part vol.2 p. G-38-42 vol.2; IEEE, Piscataway, NJ, USA; 2001.
	9	Koh, H. et al.; *QoS Negotiation Algorithm for Effective Radio Resource Allocation*; Proceedings of the IASTED International Conference. Internet and Multimedia Systems and Applications p. 214-19; IASTED , Anaheim, CA, USA; 2000.
	10	Wang, J. et al.; *Adaptive Mobile Multimedia QoS Control and Resource Management*; Proceedings Ninth IEEE International Conference on Networks p. 332-7; IEEE Comput. Soc , Los Alamitos, CA, USA; 2001.
	11	Kang, S. et al.; *Provisioning Service Differentiation in ad hoc Networks by Modification of the Backoff Algorithm*; Proceedings Tenth International Conference on Computer Communications and Networks (Cat. No.01EX495) p. 577-80; IEEE, Piscataway, NJ, USA; 2001.
	12	Guo, Y. et al.; *Class-Based Quality of Service Over Air Interfaces in 4G Mobile Networks*; IEEE Communications Magazine vol.40, no.3 p. 132-7; March 2002.
	13	Kwok, Y. et al.; *A Quantitative Comparison of Multiple Access Control Protocols for Wireless ATM*; IEEE Transactions on Vehicular Technology vol.50, no.3 p. 796-815; May 2001.
	14	Ma, Y. et al.; *A Dynamic Scheduling Algorithm and Admission Strategy for Multimedia Traffic in Broadband Wireless Network. (Part II: Performance and tight bound)*; 2000 IEEE Wireless Communications and Networking Conference. Conference Record (Cat. No.00TH8540) Part vol.3 p. 1384-9 vol.3; IEEE, Piscataway, NJ, USA; 2000;

	15	Ma, Y. et al.; *A Dynamic Scheduling Algorithm and Admission Strategy for Multimedia Traffic in Broadband Wireless Network. (Part I: Algorithm and admission policy);* 2000 IEEE Wireless Communications and Networking Conference. Conference Record (Cat. No.00TH8540) Part vol.3 p. 1378-83 vol.3; IEEE, Piscataway, NJ, USA; 2000;
	16	Ueno, Y. et al.; *A Distributed-Control Multimedia Multiple Access Protocol for Wireless adhoc Networks*; Transactions of the Institute of Electronics, Information and Communication Engineers B vol.J84-B, no.4 p. 707-16; Inst. Electron. Inf. & Commun. Eng , April 2001;
	17	Kwok, Y. et al.; *A Performance Study of Multiple Access Control Protocols for Wireless Multimedia Services*; Proceedings 2000 International Conference on Network Protocols p. 283-92; IEEE Comput. Soc , Los Alamitos, CA, USA; 2000;
	18	Poon, T. et al.; *Traffic Management in Wireless ATM Network Using a Hierarchical Neural-Network-Based Prediction Algorithm*; Proceedings of the ISCA 15th International Conference Computers and Their Applications p. 393-5; Int. Soc. Comput. & Their Appl.- ISCA, Cary, NC, USA; 2000;
	19	Deng, J. et al.; *A Nonpreemptive Priority-Based Access Control Scheme for Broadband ad hoc Wireless ATM Local Area Networks*; IEEE Journal on Selected Areas in Communications vol.18, no.9 p. 1731-9; Sept. 2000;
	20	Shimizu, Y. et al.; *Proposal and Performance of Flow and Radio Resource Control Schemes for ABR Service in Wireless ATM;* IEICE Transactions on Communications vol.E83-B, no.8 p. 1705-12; Inst. Electron. Inf. & Commun. Eng,; Aug. 2000;
	21	Davoli, F. et al.; *A Two-Level Stochastic Approximation for Admission Control and Bandwidth Allocation*; IEEE Journal on Selected Areas in Communications vol.18, no.2 p. 222-33; Feb. 2000;
	22	Sherif, M.R. et al.; *A Generic Bandwidth Allocation Scheme for Multimedia Substreams in Adaptive Networks Using Genetic Algorithms*; WCNC. 1999 IEEE Wireless Communications and Networking Conference (Cat. No.99TH8466) Part vol.3 p. 1243-7 vol.3; IEEE, Piscataway, NJ, USA; 1999;
	23	Lee, S. et al.; *Wireless ATM MAC Layer Protocol for Near Optimal Quality of Service Support*; IEEE GLOBECOM 1998 (Cat. NO. 98CH36250) Part vol.4 p. 2264-9 vol.4; IEEE, Piscataway, NJ, USA; 1998;
	24	Pajares, A.; et al.; *Dynamic Frequency and Resource Allocation with Adaptive Error Control Based on RTP for Multimedia QoS Guarantees in Wireless Networks*; Proceedings IEEE International Conference on Multimedia Computing and Systems Part vol.2 p. 333-7 vol.2; IEEE Comput. Soc , Los Alamitos, CA, USA; 1999;
	25	Hannikainen, M. et al.; *TUTMAC: A Medium Access Control Protocol for a New Multimedia Wireless Local Area Network*; Ninth IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (Cat. No.98TH8361) Part vol.2 p. 592-6 vol.2; IEEE, New York, NY, USA; 1998;
	26	Moon, B. et al.; *A Study of Bandwidth Allocation Strategies in Multimedia Wireless Networks*; Proceedings APCC'97. Third Asia-Pacific Conference on Communications. Incorporating. ACOFT (Australian Conference on Optical Fibre Technology). ATNAC (Australian Telecommunication Networks and Applications Conference) Part vol.1 p. 509-13 vol.1; IREE Soc , Milsons Point, NSW, Australia; 1997
	27	Movahhedinia, N. et al.; *Non-Uniform Polling and Reservation Alternatives for Bandwidth Management in Broadband Wireless Networks*; Gateway to the Twenty First Century. International Conference on Universal Personal Communications. 1996 5th IEEE International Conference on Universal Personal Communications Record (Cat. No.96TH8185) Part vol.2 p. 666-70 vol.2; IEEE , New York, NY, USA; 1996;

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.